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10/586,357	07/17/2006	Suguru Fukui	80097(302721)	3094

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EDWARDS ANGELL PALMER & DODGE LLP
P.O. BOX 55874
BOSTON, MA 02205

EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,357	FUKUI ET AL.	
	Examiner	Art Unit	
	PING Y. HSIEH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 3-7 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 recites the limitation "said comparator" in page 5 line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (U.S. PATENT NO. 4,982,176) in view of Taniguchi et al. (U.S. PATENT NO. 5,999,830).

5. Claims 1, 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by.

-Regarding claim 1, Schwarz discloses a wireless sensor device **(as disclosed in fig. 1-4)** comprising: a sensor configured to sense a target object and provide a sensor signal of varying levels indicative of condition of the target object **(infrared radiation detector 50 as disclosed in col. 3 line 66-col. 4 line**

18); a signal processing circuit configured to amplify said sensor signal to give an amplified electric analog signal **(amplifier 60 as disclosed in col. 3 line 66-col. 4 line 21)**; a detection circuit configured to receive said amplified analog signal and provide a detection output (Dout) when said electric analog signal goes beyond a predetermined detection threshold **(light control logic and timing circuit 70 as disclosed in col. 4 lines 21-28)**; a radio transmitter configured to transmit a radio detection signal (RS) in response to said detection output **(RF transmitter 85 as disclosed in col. 5 lines 16-43)**; a power supply configured to provide an electric power to said signal processing circuit, said detection circuit, and said radio transmitter **(rechargeable battery 30 as disclosed in col. 3 lines 57-65)**; and a power generating element converting an external energy into said electric power to be accumulated in said power supply **(solar cells 20 as disclosed in col. 3 lines 39-56)** wherein a controller is provided to activate said radio transmitter only in response to said detection output, permitting said radio transmitter to generate said radio detection signal **(as disclosed in col. 7 line 54-col. 8 line 16)**. However, Schwarz fails to specifically disclose said radio transmitter comprises a regulator connected to receive said electric power from said power supply and configured to give an operating voltage for a short time period only upon receiving said detection output (Dout) from said detection circuit; a clock configured to be activated upon receiving said operating voltage to provide a clock signal; a pulse generator configured to generate, based upon said clock signal, short pulses identifying the presence of the detection output;

and a driver configured to be activated upon receiving said operating voltage from said regulator so as to radiate said short pulses as said radio detection signal through an antenna.

Taniguchi et al. disclose a radio transmitter comprises a regulator connected to receive said electric power from said power supply and configured to give an operating voltage for a short time period only upon receiving said detection output (Dout) from said detection circuit **(as disclosed in fig. 2-4, col. 3 lines 45-65 and col. 7 lines 4-12)**; a clock configured to be activated upon receiving said operating voltage to provide a clock signal **(local oscillator 14 supplies the stable oscillating frequency to the radio transmitting section as disclosed in fig. 2-4 and col. 8 lines 42-49)**; a pulse generator configured to generate, based upon said clock signal, short pulses identifying the presence of the detection output **(frequency converter 151, the transmitting signal is mixed with a local oscillation signal at the frequency converter 151 and being up-converted to a radio carrier signal as disclosed in fig. 2-4 and col. 8 lines 42-49)**; and a driver configured to be activated upon receiving said operating voltage from said regulator so as to radiate said short pulses as said radio detection signal through an antenna **(a transmitting power amplifier 152, the radio carrier signal is amplified by the transmitting amplifier 152 to a predetermined transmit level, and then is transmitted via the antenna 11as disclosed in fig. 2-4 and col. 8 lines 42-49)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the RF transmitter as disclosed by Schwarz to include the regulator, clock, pulse generator and a driver as disclosed by Taniguchi et al. One is motivated as such in order to provide power conservation.

-Regarding claim 3, the combination further discloses said controller is configured to provide a normal mode of operating said signal processing circuit at a rated power to obtain said electric signal (Vout) of rated amplitude proportional to said rated electric power **(Schwarz, col. 4 lines 19-28)**, and a sleep mode of operating said signal processing circuit at a reduced power for obtaining said electric signal (Vout) of low amplitude proportional to said reduced electric power **(Schwarz, resistance of the photocell 80 prevent the system from turning on lamp 40 unless the dual requirements of low background light level sensed by the photocell 80, and the detection of a moving object sensed by PIR detector 50 are met as disclosed in col. 4 lines 19-30)**, said detection circuit being configured to have a wake-up threshold which is lower than said detection threshold, said controller being configured to switch said normal mode to said sleep mode when said electric signal (Vout) of rated amplitude becomes lower than said detection threshold **(Schwarz, photocell 80 during daytime as disclosed in col. 4 lines 19-30)**, and to keep said sleep mode until said low amplified electric signal goes beyond said wake-up threshold, and said detection circuit being configured to give said detection output (Dout) when said electric signal (Vout) of rated amplitude goes beyond said detection threshold in said

normal mode **(Schwarz, photocell 80 in low background light level as disclosed in col. 4 lines 19-30)**.

-Regarding claim 4, the combination further discloses said sensor is an infrared ray sensor for detection of a motion of said target object of generating infrared ray, said sensor providing said sensor signal which varies in positive or negative directions in response to the motion of said target object **(Schwarz, col. 3 line 66-col. 4 line 18)**, said detection circuit having a threshold selector which provides a detection range (A1-A2) defined by upper positive and lower negative ones of said detection threshold, and also a wake-up range (B1-B2) defined by upper positive and lower negative ones of said wake-up threshold **(Schwarz, resistance of the photocell 80 prevent the system from turning on lamp 40 unless the dual requirements of low background light level sensed by the photocell 80, and the detection of a moving object sensed by PIR detector 50 are met as disclosed in col. 4 lines 19-30)**, said detection circuit including a comparator unit which receives said detection range and said wake-up range selectively from said threshold generator **(Schwarz, resistance of the photocell 80)**, said comparator unit generating a first signal (Cout) either when said electric signal (Vout) of rated amplitude goes beyond said detection range **(Schwarz, it is inherent to have a comparator unit to determine the dual requirements are met as disclosed in col. 4 lines 19-44)**, and otherwise generating a second signal (Cout), said controller selecting said detection range in response to said first signal (Cout), and selecting said wake-up range in response to said second

signal (Cout) **(Schwarz, adjustable timer 74 part of the light control logic and timing circuit 70 as disclosed in col. 4 lines 30-44)**, and said detection circuit providing said detection output only upon seeing said first signal (Cout) in said normal mode **(Schwarz, the dual requirements of low background light level sensed by the photocell 80, and the detection of a moving object sensed by PIR detector 50 are met as disclosed in col. 4 lines 19-30)**.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (U.S. PATENT NO. 4,982,176) in view of Taniguchi et al. (U.S. PATENT NO. 5,999,830) and further in view of Bilotti et al. (U.S. PATENT NO. 6,356,741).

-Regarding claim 5, Schwarz discloses a wireless sensor device **(as disclosed in fig. 1-4)** comprising: a sensor configured to sense a target object and provide a sensor signal of varying levels indicative of condition of the target object **(infrared radiation detector 50 as disclosed in col. 3 line 66-col. 4 line 18)**; a signal processing circuit configured to amplify said sensor signal to give an amplified electric analog signal **(amplifier 60 as disclosed in col. 3 line 66-col. 4 line 21)**; a detection circuit configured to receive said amplified analog signal and provide a detection output (Dout) when said electric analog signal goes beyond a predetermined detection threshold **(light control logic and timing circuit 70 as disclosed in col. 4 lines 21-28)**; a radio transmitter configured to transmit a radio detection signal (RS) in response to said detection output **(RF transmitter 85 as disclosed in col. 5 lines 16-43)**; a power supply configured to provide an electric power to said signal processing circuit, said detection circuit,

and said radio transmitter **(rechargeable battery 30 as disclosed in col. 3 lines 57-65)**; and a power generating element converting an external energy into said electric power to be accumulated in said power supply **(solar cells 20 as disclosed in col. 3 lines 39-56)** wherein a controller is provided to activate said radio transmitter only in response to said detection output, permitting said radio transmitter to generate said radio detection signal **(as disclosed in col. 7 line 54-col. 8 line 16)**. However, Schwarz fails to specifically disclose said radio transmitter comprises a regulator connected to receive said electric power from said power supply and configured to give an operating voltage for a short time period only upon receiving said detection output (Dout) from said detection circuit; a clock configured to be activated upon receiving said operating voltage to provide a clock signal; a pulse generator configured to generate, based upon said clock signal, short pulses identifying the presence of the detection output; and a driver configured to be activated upon receiving said operating voltage from said regulator so as to radiate said short pulses as said radio detection signal through an antenna.

Taniguchi et al. disclose a radio transmitter comprises a regulator connected to receive said electric power from said power supply and configured to give an operating voltage for a short time period only upon receiving said detection output (Dout) from said detection circuit **(as disclosed in fig. 2-4, col. 3 lines 45-65 and col. 7 lines 4-12)**; a clock configured to be activated upon receiving said operating voltage to provide a clock signal **(local oscillator 14**

supplies the stable oscillating frequency to the radio transmitting section as disclosed in fig. 2-4 and col. 8 lines 42-49); a pulse generator configured to generate, based upon said clock signal, short pulses identifying the presence of the detection output **(frequency converter 151, the transmitting signal is mixed with a local oscillation signal at the frequency converter 151 and being up-converted to a radio carrier signal as disclosed in fig. 2-4 and col. 8 lines 42-49)**; and a driver configured to be activated upon receiving said operating voltage from said regulator so as to radiate said short pulses as said radio detection signal through an antenna **(a transmitting power amplifier 152, the radio carrier signal is amplified by the transmitting amplifier 152 to a predetermined transmit level, and then is transmitted via the antenna 11as disclosed in fig. 2-4 and col. 8 lines 42-49)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the RF transmitter as disclosed by Schwarz to include the regulator, clock, pulse generator and a driver as disclosed by Taniguchi et al. One is motivated as such in order to provide power conservation.

However, the combination does not specifically disclose receiving said first signal from said comparator unit at an input of said output provider, and said input being connected to receive said first signal from said comparator unit through a switch which is controlled by said controller to close only in response to said first signal.

Bilotti et al. disclose receiving said first signal from said comparator unit at an input of said output provider, and said input being connected to receive said first signal from said comparator unit through a switch which is controlled by said controller to close only in response to said first signal **(as disclosed in fig. 3, fig. 4 and further disclosed in col. 6 lines 21-58)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the detection unit of Schwarz and Taniguchi to include the comparator and the switch as disclosed by Bilotti et al. One is motivated as such in order to provide a reliable magnetic pole insensitive switch which can serve as a "drop-in" replacement for mechanical type switches.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (U.S. PATENT NO. 4,982,176) in view of Taniguchi et al. (U.S. PATENT NO. 5,999,830) and further in view of Gray et al. (U.S. PATENT NO. 6,275,712).

-Regarding claim 6, the combination of Schwarz and Taniguchi et al. discloses all the limitations as claimed in claims 1 and 3. However, the combination fails to disclose said controller is connected to monitor a level of said electric power accumulated in said power supply and to keep said normal mode and disable said sleep move while said electric power is higher than a predetermined power level.

Gray et al. disclose a battery monitor 126 sends a signal to control processor 118 indicating that battery power level has risen above threshold and

the user is able to set the threshold level for activating power saving function as disclosed in fig. 1 and further disclosed in col. 4 lines 39-65.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify one of the requirements for turning on lamp of Schwarz to be configured as the battery power being higher than a predetermined power level as disclosed by Gray et al. One is motivated as such in order to provide a programmable lighting system based on user's need.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (U.S. PATENT NO. 4,982,176) in view of Taniguchi et al. (U.S. PATENT NO. 5,999,830) and further in view of Motte (U.S. PATENT NO. 7,193,201).

-Regarding claim 7, the combination of Schwarz and Taniguchi et al. discloses all the limitations as claimed in claim 1. However, the combination fails to specifically point out the solar cell is a photovoltaic cell which converts light into electrical energy, and said photovoltaic cell also defining said power generating element for accumulating the electric power into said power supply.

Motte discloses a photovoltaic cell as disclosed in col. 1 lines 11-21.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the solar cell of Schwarz to be a photovoltaic cell as disclosed by Motte. One is motivated as such in order to provide an energy generation not only from the sunlight.

Response to Arguments

9. Applicant's arguments filed 12/31/08 have been fully considered but they are not persuasive.

a. In pages 6-8 of the remarks, regarding claim 1, applicant argues that Taniguchi et al. does disclose the regulator, clock, pulse generator and driver recited in claim 1. The applicant further argues figs. 4 and 5 of Taniguchi et al. show that local oscillator 14 outputs an analog signal, which cannot be used as a clock signal for digital signal processing. The time slot is determined by control unit 5. None of the elements function as a regulator or pulse generator.

-The examiner respectfully disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., clock signal for digital signal processing) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Taniguchi et al. indeed disclose a regulator as disclosed in col. 3 lines 45-65; and a local oscillator 14, fig. 2, which generates oscillating frequency based on clock and pulse generator.

b. In page 8 of the remarks, regarding claims 6 and 7, applicant argues that both Gray et al. and Motte fail to teach the features recited in claim 1, from which claims 6 and 7 depends.

-The examiner respectfully disagrees. As discussed above, the combination of Schwarz and Taniguchi et al. does teach the limitations and therefore the secondary references do not need to teach it.

c. In page 9 of the remarks, regarding claim 5, applicant states the examiner has indicated that claim 5 would be allowable if rewritten in independent form.

-The examiner respectfully disagrees. As indicated in Office Action mailed on 9/4/08, claim 5 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, claim 5 is not amended in such way. Applicant merely amended claim 5 to include the limitations of claim 1 but without limitations in claims 3 and 4, which claim 5 originally depend on. Therefore, the scope of the amended claim 5 has changed from its original consideration; and a new ground of rejection is given.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana N. Le can be reached on (571)272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./
Examiner, Art Unit 2618

/Lana N. Le/
Primary Examiner, Art Unit 2614